Obituary.

PROF. J. EMERSON REYNOLDS, F.R.S.

PROF. JAMES EMERSON REYNOLDS, whose death at seventy-five years of age was announced in NATURE of February 26, was born in 1844 in Booterstown, a suburb of Dublin. His father was a medical practitioner and proprietor of a medical hall, and it was while assisting his father that he first became enamoured of the study of chemistry. Destined to follow in the profession of his father, Reynolds studied medicine, and became a licentiate of the Royal College of Physicians and Surgeons of Edinburgh. Although he practised in Dublin for a short time, his great desire was to devote himself to chemistry, and his chance to discard medicine soon came when, in March, 1867, he was appointed "keeper of minerals" at the National Museum in Dublin, and in the following year analyst to the Royal Dublin Society. It was here that he made his first important contribution to chemistry. In 1869 he discovered thiocarbamide, the sulphur analogue of urea, which he obtained as a result of the isomeric transformation of ammonium thiocyanate. This was a discovery which attracted a good deal of attention at the time, since Liebig and, later, Hofmann had both been unsuccessful in their attempts to isolate the compound—in fact, Hofmann had previously suggested that ammonium thiocyanate was probably thiourea.

Two years later, in a paper communicated to the Royal Society, Reynolds described the preparation of an interesting compound of acetone and mercuric oxide, of the composition $2(CH_3.CO.CH_3),3HgO$, which was the first example of a colloidal mercurial derivative. The conditions under which this body is formed constitute a very delicate reaction for the detection of acetone.

In 1875 Reynolds was appointed to the chair of chemistry in the University of Dublin in succession to the late Dr. Apjohn, having previously been for two years professor of chemistry at the Royal College of Surgeons of Ireland. He quickly established for himself a high reputation as a teacher and lecturer, and for a few years his energies were mainly directed towards the development of the teaching of chemistry on original lines. Shortly after his appointment he commenced the writing of his well-known "Experimental Chemistry for Junior Students," which was ultimately published in four small volumes. The first volume was a distinctly original work. By the aid of a progressive series of simple and well-tested experiments, the junior student was enabled to verify for himself the fundamental laws of chemistry by *quantitative* results. Whilst the quantitative method is now universally adopted in the early training of the student, Reynolds must be given the credit of having been the first to introduce it, now forty years ago. The experimental illustration of his lectures was a matter to which Reynolds gave great attention and a good deal of his time. If, from one cause or another, an experiment failed, which was of rare occurrence, it was always successfully repeated on the following occasion. As a result, his lectures were very attractive, and the discipline which he maintained in his classes was proverbial in the college.

This, it can be understood, was not attained without the display of a certain amount of well-meant severity, and, though Reynolds always refused to nourish popularity at the sacrifice of a surrender of discipline, he was nevertheless held in high esteem by all young men who came under his tuition. Past students have many times spoken to the writer of their great appreciation of Reynolds as a lecturer, teacher, and disciplinarian.

Whilst his professional duties absorbed most of his time, Reynolds continued research, and, from a comparison of the specific heats of silver and beryllium (glucinum), which he had prepared in a nearly pure state, he showed that the atomic weight of the latter must be taken as 9, and that the element was a member of the family of alkaline earths.

In 1885 his researches on organic derivatives of silicon, in which this element was united to nitrogen, were commenced. The results were described in a series of more than a dozen papers published in the Transactions of the Chemical Society up to 1909. Amongst several new substances which were prepared, perhaps the most interesting was the beautifully crystalline silico-tetraphenylamide, $Si(NH.C_6H_5)_4$, the carbon analogue of which has never been obtained, and by the action of heat silico-diphenylimide, $Si(NC_6H_5)_2$, was obtained, the carbon analogue of which is well known. After twenty-eight years' occupation of the chair of chemistry in the University of Dublin, Reynolds retired in 1903, and went to live in London, where he continued work in the Davy-Faraday Laboratory.

Reynolds's last contribution to chemistry, published in the Proceedings of the Royal Society in 1913, was an interesting synthesis of the mineral anorthite, $CaAl_2Si_2O_8$, which he prepared by the combined action of oxygen and water vapour at a high temperature on the synthetic substance $Ca(SiAl)_2$, which he had previously prepared. Reynolds had many honours conferred upon him during his career. He was elected a fellow of the Royal Society in 1880, and vice-president in 1901, president of the Chemical Society 1901–3, president of the Society of Chemical Industry 1891–92, and president of the chemical section of the British Association in 1893. Reynolds died suddenly on Tuesday, February 17, at his residence in London. He was an honorary M.D. and Sc.D. of the University of Dublin. He married, in 1875, a daughter of Canon Finlayson, of Dublin. He leaves two children, a son and a daughter.

E. A. W.